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1, 2002   Please type a plus sign (+) inside this box	$\rightarrow$ $\Box$		<u>لُ</u>	PTO/SB/21 (08-00)	<
TRANSPITE THE Paperwork Reduction Act of 1995, no person	s are required to re	U.S. Patent and Tradem	/ed for use through 10/31/2002 ark Office: U.S. DEPARTMEN	2. OMB 0651-0031 T OF COMMERCE	
		Application Number	10/080,120		1
TRANSMITT	AL	Filing Date	2/21/2002		
FORM		First Named Inventor	De et al.	RECEIV	ED
(to be used for all correspondence afte	er initial filing)	Group Art Unit	Not Yet Known	MAY 3 0	002
		Examiner Name	Not Yet Knowne	Chnology Con	er 2000
Total Number of Pages in This Subm	ission 7	Attorney Docket Number	I-2-0173.10US		PI 2600
	ENCL	OSURES (check	all that apply)		
Fee Transmittal Form  Fee Attached  Amendment / Reply  After Final  Affidavits/declaration(s)  Extension of Time Request  Express Abandonment Request  Information Disclosure Statement  Certified Copy of Priority Document(s)  Response to Missing Parts/ Incomplete Application  Response to Missing Parts under 37 CFR 1.52 or 1.53	Drawing Licensir Petition Petition Provisio Change Address Termina Reques	ng-related Papers  to Convert to a  snal Application  of Attorney, Revocation  of Correspondence	After Allowance Cor to Group Appeal Communica of Appeals and Inter Appeal Notice, Brief, Repi Proprietary Informa Status Letter Other Enclosure(s) identify below):	tion to Board rferences tion to Group ly Brief) tion	
SIGNATU	IRE OF APPLI	CANT, ATTORNEY, OR	AGENT		
Firm JEFFREY M.			Reg. No. 42,	584	
Individual name Volpe and Ko	enig, P.C.	1			1
Signature (////////////////////////////////////	12//W/M/	1.			
Date May 20, 2002	, — <del>—</del>				
	CERTIFICA	ATE OF MAILING			1
I hereby certify that this correspondence is being deposited with the			lass mail in an envelope		

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addressed to: Commissioner for Patents, W	May 20, 2002					
Typed or printed name JEFFREY M. GLABICKI						
Signature	MILINA ME HAMMEN	Date	May 20, 2002			

Burden Hour Statement: This form is estimated to take 0.2 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Assistant Commissioner for Patents, Washington, DC 20231.

Volpe and Koenig Revision of PTO/SB/17 (10-01)
Approved for use through 10/31/2002. OMB 0651-0032
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
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## FEE TRANSMITTAL for FY 2002

Patent fees are subject to annual revision.

TOTAL AMOUNT OF PAYMENT	(\$)	0
	1 (7)	

Complete if Known							
Application Number	10/080,120						
Filing Date	2/21/2002						
First Named Inventor	De et al.						
Examiner Name	Not Yet Known						
Group Art Unit	Not Yet Known						
Attorney Docket No.	I-2-0173.10US						

METHOD OF PAYMENT	FEE CALCULATION (continued)						
1. The Commissioner is hereby authorized to charge	3. ADDITIONAL FEES						
indicated fees and credit any overpayments to:  Deposit	Large Small						
Account Number 22-0493	Entity Entity Fee Fee Fee Fee Fee Fee Fee Pee Fee Pee Fee F	aid					
Deposit Account VOLPE AND KOENIG, P.C.	Code (\$) Code (\$)  105 130 205 65 Surcharge - late filing fee or oath						
Name VOLI E AND ROLIVIA, 1.0.	127 50 227 25 Surcharge - late provisional filing fee or						
Charge any Deficiencies or Credit any Overpayment in the Total Fees Associated With This Communication	cover sheet RECEN	#ED					
Applicant claims small entity status.	139 130 139 130 Non-English specification	$\dashv \Gamma$					
See 37 CFR 1.27	147 2,520 147 2,520 For filing a request for ex parte reexami	<del>20</del> 02					
2. Payment Enclosed: Check Credit card Money Order Other	112 920* 112 920* Requesting publication of SIR prior to Examiner action	[					
FEE CALCULATION	113 1,840* 113 1,840* Requesting publication of SIR afte Technology Ce	utel 5eo					
1. BASIC FILING FEE	115 110 215 55 Extension for reply within first month						
Large Entity Small Entity	116 400 216 200 Extension for reply within second month						
Fee Fee Fee Fee Description	117 920 217 460 Extension for reply within third month						
Code (\$) Code (\$) Fee Paid  101 740 201 370 Utility filing fee	118 1,440 218 720 Extension for reply within fourth month	<b></b>					
106 330 206 165 Design filing fee	128 1,960 228 980 Extension for reply within fifth month						
107 510 207 255 Plant filing fee	119 320 219 160 Notice of Appeal	<b></b>					
108 740 208 370 Reissue filing fee	120 320 220 160 Filing a brief in support of an appeal						
114 160 214 80 Provisional filing fee	121 280 221 140 Request for oral hearing						
	138 1,510 138 1,510 Petition to institute a public use proceeding						
SUBTOTAL (1) (\$) 0	140 110 240 55 Petition to revive - unavoidable	<b>—</b> Ⅱ					
2. EXTRA CLAIM FEES	141 1,280 241 640 Petition to revive - unintentional						
Fee from Ext <u>ra Claim</u> s <u>below</u> <u>Fee Paid</u>	1 142 1,280 242 640 Utility issue fee (or reissue)						
Total Claims ** = X =	143 460 243 230 Design issue fee	}					
Independent Claims X = X	144 620 244 310 Plant issue fee	<b> </b>					
Multiple Dependent	122 130 122 130 Petitions to the Commissioner	<b>⊣</b> II					
	123 50 123 50 Processing fee under 37 CFR 1.17(q)						
Large Entity Small Entity Fee Fee Fee Fee Description	126 180 126 180 Submission of Information Disclosure Stmt	<b></b>					
Code (\$) Code (\$)  103 18 203 9 Claims in excess of 20	581 40 581 40 Recording each patent assignment per property (times number of properties)						
102 84 202 42 Independent claims in excess of 3	146 740 246 370 Filing a submission after final rejection						
104 280 204 140 Multiple dependent claim, if not paid	(37 CFR § 1.129(a))	<b>  </b>					
109 84 209 42 ** Reissue independent claims over original patent	149 740 249 370 For each additional invention to be examined (37 CFR § 1.129(b))						
110 18 210 9 ** Reissue claims in excess of 20	179 740 279 370 Request for Continued Examination (RCE)	<b>⊣I</b>					
and over original patent	169 900 169 900 Request for expedited examination of a design application						
SUBTOTAL (2) (\$) 0	Other fee (specify)						
**or number previously paid, if greater; For Reissues, see above	*Reduced by Basic Filing Fee Paid SUBTOTAL (3) (\$) 0	_					

SUBMITTED BY		Complete (if applicable)			
Name (Print/Type)	Jeffrey M. Glabicki	Registration No. (Attorney/Agent)	42,584	Telephone	215-568-6400
Signature	Allmy Mr. Halling			Date	May 20, 2002



## IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

n the PATENT APPLICATION of:

De et al.

**Application No.:** 10/080,120

**Filed:** 02/21/2002

For: SINGLE USER DETECTION USER

**EQUIPMENT** 

Group: Not Yet Known

Examiner: Not Yet Known

Our File: I-2-0173.10US

Date: May 20, 2002

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MAY 3 0 2002

Technology Center 2600

## INFORMATION DISCLOSURE STATEMENT

Commissioner for Patents Washington, D.C. 20231

Sir:

Further to applicant's Duty of Disclosure pursuant to 37 C.F.R. § 1.56, applicant wishes to bring to the Examiner's attention the material cited on the enclosed PTO-1449 form.

**Applicant:** De et al. **Application No.:** 10/080,120

It is respectfully requested that the Examiner consider these documents and return an initialed copy of the PTO-1449 form indicating his consideration of the cited materials.

Respectfully submitted,

De et al.

Jeffrey M. Glabicki

Registration No. 42,584

(215) 568-6400

Volpe and Koenig, P.C. Suite 400, One Penn Center 1617 John F. Kennedy Boulevard Philadelphia, PA 19103

JMG/jrd Enclosures

Sheet	1	of	1
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MAY 2 1 2002 WELL

## **FORM PTO-1449**

U.S. DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE

INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(Use several sheets if necessary)

AC

AD

ATTY. DOCKET NO. I-2-0173.10US

SERIAL NO. 10/080,120

APPLICANT De et al.

FILING DATE 2/21/2002

GROUP Not Yet Known

							l	J.S.	PATENT	DOCUMENTS				
EXAMINER INITIAL	DOCUMENT NUMBER					NUME	BER		DATE	NAME	CLASS	SUBCLASS		DATE IF
						F	=OF	REIG	GN PATE	NT DOCUMENTS				
					45.IT						61.466	SU 15 SU 4 SS	TRANSLATION	
			DOCUMENT NUMBER				SEH		DATE	COUNTRY	CLASS	SUBCLASS	YES	NO
	OTHER	D	ос	UN	1EN	ITS	ıl)	nclu	ıding Aut	hor, Title, Date, Pe	rtinent P	ages, [	Etc.)	
	АА			Ramjee Prasad, Werner Mohr and Walter Konhauser editors, <i>Third Generation Mobile Communication Systems</i> , Artech House, Boston, 2000.										
	АВ		1	Anja Klein, Ghassan Kawas Kaleh and Paul Walter Baier, "Zero Forcing and Minimum Mean-Square Error Equalization for Multiuser Detection in Code-Division Multiple-Access Channels", <i>IEEE Trans. on Vehicular Technology</i> , Vol.45, No. 2, pp. 276-287, May 1996.										

AE

ETSI STC SMG2 Layer 1 Expert Group, "Low Cost MMSE-BLE-SD Algorithm for UTRA TDD Mode Downline", Tdoc SMG2 UMTS L1, Helsinki, Finland, Sept. 1998.

AF

3G TS 25.102 V3.4.0, 2000-10, "UTRA (TDD) Radio Transmission and Reception", 3rd Generation Partnership Project, Technical Specification Group RAN WG4, Annex B., pp. 37.

EXAMINER

DATE CONSIDERED

Naja Klein, "Data Detection Algorithms Specially Designed for the Downlink of

CDMA Mobile Radio Systems", *IEEE 47th Vehicular Technology Conference*, pp. 203-207, May 1997.

H.R. Karimi and N.W. Anderson, "A Novel and Efficient Solution to Block-Based Joint-Detection using Approximate Cholesky Factorization", *Personal, Indoor and Mobile Communications PIMRC' 98*, Conference Proceedings, Vol. 3, pp. 1340-1345, Sept. 1998, Boston, MA.

EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.